

ACR

LEADERSHIP | INTEGRITY | QUALITY | INNOVATION

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Bulletin



Leading the
Way

SPECIAL SECTION

Are You a Radiologist of the Future?

It's a brave new world. To survive and thrive, every radiologist needs to fill gaps in non-interpretive skills. That's where the Radiology Leadership Institute® (RLI) comes in.

Built by radiologists for radiologists, the RLI has the training and networking opportunities you need to stay relevant and get ahead.

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Whether your goal is to be a leader in your organization or in your field — or just to lead your career in the right direction — the RLI can help you master the challenges ahead.

Be a Leader



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Then-Lt. Col. Mohammad Naeem, MD, FACR, is pictured at the NATO Forward Support Base "Camp Arena" in Herat, Afghanistan in 2012.

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OUR MISSION: The *ACR Bulletin* supports the American College of Radiology's Core Purpose by covering topics relevant to the practice of radiology and by connecting the College with members, the wider specialty, and others. By empowering members to advance the practice, science, and professions of radiological care, the *Bulletin* aims to support high-quality patient-centered healthcare.



QUESTIONS? COMMENTS? Contact us at bulletin@acr.org

Digital edition and archives of past issues are available at ACR.ORG/BULLETIN



Jennifer Nathan, MD,
Radiology Leadership
Institute® Board of
Directors

Guest Columnist

A Path for Everyone

The ACR provides an avenue for leadership growth.

Before you are a leader, success is all about growing yourself. When you become a leader, success is all about growing others.” — John Francis “Jack” Welch Jr., former chairman and CEO of General Electric

In a constantly fluctuating healthcare landscape, it is imperative that we, as radiologists, develop and practice leadership skills — to lead change rather than follow it. Leadership is not a tool that is quickly learned, but rather a skill set acquired over time and developed over multiple different experiences. Throughout my personal growth as a leader, the ACR has been instrumental in providing various leadership experiences and opportunities — which I am now using to help mentor the next generation of leaders as part of my role on the ACR’s Radiology Leadership Institute® (RLI) board.

While going through my mailbox one day during residency, I stumbled across the *ACR Bulletin*. Reading through the magazine, I ran across an announcement on fellowship opportunities that the ACR offers. One in particular that struck me was the Rutherford-Lavanty Fellowship in Government Relations. The fellowship allowed a resident to spend a week in Washington, D.C., working with the ACR government relations staff and learning about federal legislative actions and policies affecting radiology, with opportunities to meet with members of Congress and their staff to discuss important issues. I decided to apply for the fellowship as I knew very little about legislative actions targeting radiology and thought it would be a great learning opportunity. I was accepted and the week I spent in Washington, D.C., proved to be eye-opening in many ways. I learned all about how the government relations department is tirelessly advocating for our profession. I also learned how critical it is to get involved with the ACR. I saw an organization that addresses virtually every professional concern for radiologists, and also provides a pathway to leadership growth.

After finishing my training and entering the YPS, I began to see how important it is to develop leadership skills for a successful career in radiology. Leadership skills are used on a daily basis — whether it is serving as a consultant to a healthcare team, negotiating for your group/practice, or being asked to serve on a committee

or board representing your group. I turned to the ACR to help facilitate my growth as a leader and ran for a leadership position on the YPS executive committee to gain some experience. I was elected as vice chair of the YPS executive committee and subsequently served as chair the following year. Through these roles, I was allowed the unique opportunity to serve as a member of the ACR’s CSC. Through each CSC meeting and work group, I learned what it means to be a leader and how to be effective in leading an organization.

After serving on the CSC, I was selected as the first YPS representative on the ACR’s BOC — a leadership opportunity that cannot be replicated. Through this opportunity, I was involved in the strategic planning, policy goals, and operations of the ACR. I observed some of the great and talented leaders we have at the College as they problem-solved to arrive at solutions and achieve success.

I saw an organization that addresses virtually every professional concern for radiologists, and also provides a pathway to leadership growth.

Today, it is my turn to help others achieve their leadership goals. The RLI is a unique component of the ACR — providing all the tools needed to cultivate future leaders, with leadership programs for residents/fellows, mid-career professionals, and those needing executive-level training (see below). Consider volunteering to serve the ACR or enroll in the great programming the RLI has to offer to build on your leadership potential. Regardless of what stage of your career you are in, leadership skills are critical to your success. **B**



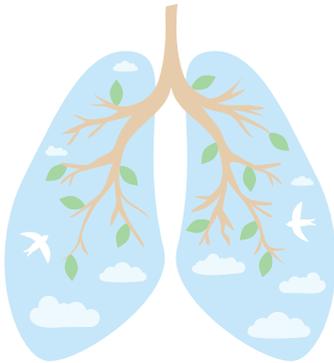
Enroll in the RLI

The RLI delivers professional development programming, leadership skills training, and networking opportunities for radiologists who want to advance their careers and master the challenges of today’s rapidly evolving healthcare landscape. Learn more at acr.org/RLI.

What does leadership mean to you?

As you read through this month’s issue, consider what makes a good leader and how ACR has or can help you get there. We want to hear your personal stories. Submit a written or video comment to acr.org/WeAreACR today.

Fighting Lung Cancer



The National Lung Cancer Roundtable (NLCRT) — a collaboration of public, private, and voluntary organizations who play a key role in reducing the incidence and mortality from lung cancer — has expanded its portal of resources to help Americans fight lung cancer. The updated resource center includes new videos, infographics, and research to make it easier for patients, families, and healthcare providers to find the information they need.

“Lung cancer is the leading cause of cancer death in men and women,” says Ella A. Kazerooni, MD, FACR, chair of the NLCRT and professor of radiology and internal medicine at the University of Michigan. “Finally, we have a screening exam that will make a major impact and change the face of lung cancer for the future to a survivable cancer, not a death sentence.”

The NLCRT works collectively to address the pressing issues that stand in the way of advancing progress and delivering best practices in lung cancer control through efforts to increase public and professional education, prevention and early detection, quality assurance, access to care, effective health policy, and access to optimal diagnosis and treatment. For more information, [visit **acr.org/NLCRT**](http://acr.org/NLCRT).



Eric B. LoMonaco

Early Action Boosts Patient Satisfaction

The radiology department at the Community Hospital of Monterey Peninsula (CHOMP) in California implemented an electronic system to gather real-time feedback from patients, allowing staff to address issues while patients are still in the department. The department also developed an appointment reminder system that sends patients pre-exam information and allows patients to ask specific

questions before they even arrive for their appointments. These efforts have helped earn the group an “excellent” rating from 90% of its patients and have helped its no-show rates plummet to virtually zero.

“If you wait for satisfaction surveys to come back, you’re calling patients 4–6 weeks later to apologize for issues they experienced during their appointments,” says Eric B. LoMonaco, director of diagnostic and IR at CHOMP. “By that time, it’s often too late to make it right. This system allows us to address patients’ concerns when they matter most — right on the spot.”

Read the **Imaging 3.0®** case study at acr.org.



Renew, Volunteer, Lead

Did you know that ACR members drive the direction and work of the College? In any given year, almost 2,500 members volunteer on 22 commissions, 124 committees, 36 subcommittees, 4 task forces, and many other micro-opportunities that are integral to the success of the ACR and the advancement of the profession. In addition, the ACR BOC, the CSC, and all 54 chapters are comprised of diagnostic and IR, radiation oncology, and medical physics volunteers at all career stages. Volunteering affords unique opportunities to foster meaningful professional relationships, develop new skills, and open new doors for leadership roles. The only requirement to volunteer is membership. Renew your 2020 membership today to take advantage of this and the many other member benefits that enhance your practice management skills.

Renew online at acr.org/renew.

Renew Your Pledge to Radiation Safety



Image Wisely® is an awareness and education program of the ACR, RSNA, the American Association of

Physicists in Medicine, and the American Society of Radiologic Technologists that provides current information on radiation safety with the goal of lowering the amount of radiation used in medically necessary imaging studies and eliminating unnecessary procedures. Now is the time to renew your annual pledge! Be sure to check out the latest radiation safety case for free CME, and access Facebook Live video archives for discussions on various imaging topics.

Visit imagewisely.org today to renew.

CALENDAR

January

- 9–10 CT Colonography, ACR Education Center, *Reston, Va.*
- 13–15 Abdominal Imaging, ACR Education Center, *Reston, Va.*
- 17–19 Body and Pelvic MR, ACR Education Center, *Reston, Va.*
- 17–19 ACR/RBMA Practice Leaders' Forum, Hilton La Jolla Torrey Pines, *California*
- 23 MR Imaging of Breast Implants, Cosmos Club, *Washington, D.C.*
- 23–25 Breast Imaging Boot Camp With Tomosynthesis, ACR Education Center, *Reston, Va.*
- 27–28 Breast MR With Guided Biopsy, ACR Education Center, *Reston, Va.*
- 30–Feb 1 NIOSH B Reader Training and Examination, ACR Education Center, *Reston, Va.*

February

- 3–5 ACR-Dartmouth PET/CT, ACR Education Center, *Reston, Va.*
- 7–9 Musculoskeletal MR of Commonly Imaged Joints, ACR Education Center, *Reston, Va.*
- 10–12 High-Resolution CT of the Chest, ACR Education Center, *Reston, Va.*
- 10–March 6 AIRP® Correlation Course, AFI Silver Theatre and Cultural Center, *Silver Spring, Md.*
- 21–22 Prostate MR, ACR Education Center, *Reston, Va.*
- 24–26 Coronary CT Angiography, ACR Education Center, *Reston, Va.*
- 27–28 Transcatheter Aortic Valve Replacement, ACR Education Center, *Reston, Va.*
- 27 Optimizing CT Imaging for Gastric Tumors, Cosmos Club, *Washington, D.C.*

March

- 2–3 Nuclear Medicine, ACR Education Center, *Reston, Va.*
- 4–6 Pediatric Radiology, ACR Education Center, *Reston, Va.*
- 9–11 Neuroradiology, ACR Education Center, *Reston, Va.*
- 13–15 Cardiac MR, ACR Education Center, *Reston, Va.*
- 16–April 11 AIRP Correlation Course, AFI Silver Theatre and Cultural Center, *Silver Spring, Md.*

Radiologist Success in MIPS APM Pathway



A new study from the Harvey L. Neiman Health Policy Institute®, published online in the *JACR*®, assesses radiologists' performance in the Merit-Based Incentive Payment System, with attention to the impact of the novel MIPS-Advanced Alternative Payment Models (APMs) participation option created under MACRA.

"In terms of radiologists' final MIPS Scores, although we previously predicted much higher performance of radiologists using group rather than individual reporting, we observed that those using APM reporting had the highest performance of all," said Andrew B. Rosenkrantz, MD, MPA, lead study author, professor, and director of health policy in the department of radiology at NYU Langone Health and a Neiman Institute Affiliate senior research fellow. "This high MIPS performance through APMs was observed consistently across radiologists in terms of both practice types and radiology practice sizes."

Rosenkrantz and his colleagues extracted radiologists' 2017 MIPS performance data from the Physician Compare 2017 Individual EC Public Reporting—Overall MIPS performance data set and additional physician characteristics were extracted from multiple CMS data sets. This data set provides 2017 MIPS performance information for 376,170 MIPS participants in 2017 and includes each provider's scores in the Quality Advancing Care Information (when scored in this category), and Improvement Activities categories, as well as each individual's final MIPS score.

To access the study, visit bit.ly/HPI_MIPSAPM.

Now Available: CPI Module in Breast Imaging

Test your knowledge and improve your diagnostic imaging skills with the new CPI Breast Imaging Module 2019 from the ACR Continuous Professional Improvement (CPI) program. Study casework directly from CPI's expert breast imagers, including images using digital mammography, grayscale and color Doppler US, stereotactic biopsy and MRI. Self-assessment questions feature BI-RADS® categorization, breast imaging artifacts, and more.

Each CPI module includes at least 50 self-assessment questions and offers up to 8 CME/SA-CME. Choose the print publication or the online examination and receive a free e-book copy. Members save \$35 per module when selecting six modules through a customized CPI Select Six Series.

Learn more at acr.org/cpi.

New Online Presence for the ACR Bulletin

The *ACR Bulletin* recently moved its online presence to acr.org with new features, including web exclusive articles and trending stories in the field of radiology. The new acr.org layout will continue to provide access to the print edition, while offering clear navigation and easy-to-scan content.

Read more at acr.org/bulletin.

Nationally, 93% of women ages 40 to 74 have coverage for digital breast tomosynthesis (DBT), according to Truven Health Analytics. It's time to make DBT 100% covered for all women in the U.S.

— Scott R. Grosskreutz, MD, president of the Hawaii Radiological Society, at bit.ly/VOR_DBT

Are We Looking at PAMA 2.0?

The legislation will need to address burden reduction, workable clinical care, and a response to patient needs.

The Appropriate Use Criteria (AUC) are evidence-based guidelines that allow consultation at the point of ordering. The history of AUC can be divided into three periods: pre-PAMA (1992–2014), early post-PAMA (2015–2019), and late post-PAMA (2020 onward).

Pre-PAMA (1992–2014)

In the April 2019 issue of the *ACR Bulletin*, I wrote about the pre-PAMA history of the AUC.¹ In the early 1990s, during former President Bill Clinton's first term, healthcare reform was a main focus — of his administration and of the federal government. All solutions were on the table. In 1993, during testimony before the House Ways and Means Committee, the former ACR BOC Chair K. K. Wallace Jr., MD, pledged that the ACR would take the lead in developing AUC to help ensure appropriate imaging. By the late 2000s, a comprehensive set of criteria had been developed, and by the early 2010s it was digitized and made ready for greater integration into clinical practice. This readiness prompted legislative action to require AUC consultation in clinical practice.

Early Post-PAMA (2015–2019)

PAMA became law in 2014. And starting in 2015, the law and subsequent regulations provided a mandatory framework for AUC implementation within Medicare. Full implementation was required by Jan. 1, 2017. The legislation requires the identification of provider-led entities (PLEs) and clinical decision support mechanisms (CDSMs). It also provides a general sketch of claims-processing mechanisms. The mandatory identification of outliers for subsequent prior authorization was described. The 2017 deadline was not met. As of late 2019, the updated timeline is as follows:

1. An education and testing period starting Jan. 1, 2020 (payment not at risk)
2. Full implementation by Jan. 1, 2021 (payment at risk)

Claims guidance has been provided along the way, including the voluntary use of the QQ modifier in 2018 and 2019 and the use of CDSM specific G-codes and

consultation-specific modifiers in 2020.^{2,3}

The early post-PAMA period has also been characterized by resistance to the AUC mandate, both from inside and outside the radiology profession. Moreover, there are indications from CMS that the required claims-processing procedures will not be ready for full implementation by 2021. Policymakers have made it clear that, even with the anticipated delay, their general commitment to AUC within the Medicare program remains strong. The anticipated delay brings the opportunity for further review of the program by all affected stakeholders.



Policymakers have made it clear that, even with the anticipated delay, their general commitment to AUC within the Medicare program remains strong.

Late Post-PAMA (2020 onward)

As we enter the late post-PAMA period, it is worth acknowledging that PAMA is a law. Any structural changes proposed by the ACR or other stakeholders will require legislative action. Our existing offerings are quite workable. But, what are the challenges and opportunities for respective stakeholders, such as ordering physicians, radiologists, and patients?

- Ordering physicians are overwhelmed by excessive regulatory burden, such as pre-authorizations (within and outside imaging), and by excessive documentation requirements. Any AUC policy updates must further enable seamless integration into clinical workflow at the point of their EHR interface.
- PAMA requires ordering physicians to consult AUC but does not impose financial risk on that group for shortcomings. Rather, it is the radiologists who bear 100% of the financial risk (non-payment). This has proven to be a challenge in gaining collective system and institutional buy-in from both ordering and furnishing professionals. Any subsequent evolution of the AUC requirements may need to spread risk across more stakeholders. Accordingly, some radiologists have expressed concerns about the effects on smaller practices, which may lack the IT backbone of larger entities. This should continue to be acknowledged.
- CMS requires workable claims-processing mechanisms and the ability to track AUC outcomes and

continued on page 21



ILLUSTRATIONS BY ANTHONY FORONDA

Leading the Way

Radiology's new breed of leaders must be engaged across ever-widening spheres of influence.

American healthcare is a brave new world — driving transformative change that can be characterized as a transition from a volume-based, fee-for-service model to a patient-centered, value-based one. This transformation is creating new, challenging realities across healthcare that will require physician leaders to be prepared with more effective leadership skills and competencies.

According to Cheri L. Canon, MD, FACR, chair of radiology at the University of Alabama at Birmingham's School of Medicine, success in this landscape depends on producing a new breed of radiology leaders: leaders equipped with modern leadership knowledge and competencies to be effective, persuasive, and influential; leaders who understand profoundly how radiology fits into the bigger picture of healthcare. These leaders must be engaged across ever-widening spheres of influence, including small group practices, hospital departments, multiple-hospital healthcare systems, in organized medicine, and in local, state, and national political arenas.¹

How do emerging and established leaders go about doing this? And what resources are available to help them along the way? The pages of this issue illuminate the ways radiologists, at all career levels, are developing and practicing leadership skills — to lead change rather than follow it. **B**

By Nicole B. Racadag, MSJ, managing editor, *ACR Bulletin*

ENDNOTE

1. Sherry CS, Canon CL. An introduction to "business essentials." *J Am Coll Radiol*. 2014;11(2): 110–111.

Breaking the Mold

When leaders take input from the team, they make more balanced, well-rounded decisions for everyone involved.

According to Lakshmi Balachandra, MBA, PhD, assistant professor of entrepreneurship at Babson College in Wellesley, Mass., we typically associate certain traits with leaders — assertive, authoritarian, and the one at the top who controls everything. “The problem is a lot of our leadership has been modeled by who has been in leadership roles traditionally,” Balachandra says. “It’s what we have been coded to believe leadership should look like. And it’s hard to get away from that.”

But just because someone *can* make a decision, doesn’t necessarily mean it’s the *right* decision, Balachandra explains. “You may think, ‘oh, they’re decisive,’ but if they’re decisive without really considering everyone’s perspective or coming up with a collaborative outcome, then is it going to be a good decision?”

Get to the Table

First, Balachandra notes, leaders should reflect those they lead — and this can only happen by increasing diversity within the leadership pool (read more on page 14). “Our decisions are influenced by a lot of factors that we are, frankly, just not aware of,” Balachandra says. “There are many terms for it — cognitive biases, decision-making heuristics, hidden biases, implicit biases, etc.” The point, Balachandra explains, is not to blame anyone but to recognize that these biases can’t be avoided. “Nobody is a blank slate,” Balachandra says. “So the only way to make a decision that isn’t purely from your perspective and your own biased lens, is to make sure you are including input from those around you — particularly those who bring different perspectives to the table, whether it’s race, gender, age, or even training.”

Taj Kattapuram, MD, a radiologist based in Arvada, Colo., and vice chair of ACR’s Council Nominating Committee, agrees. “What’s really important about having not only different ages but different cultural, educational, and work experience backgrounds is that people will bring all of their perspectives to the table,” she says. “It’s an advantage to diversify your thinking as a leader. Even if you don’t agree with someone, it’s wise to listen respectfully and acknowledge the differences in opinion. You’ll become aware of what is out there so that you know how to appropriately address it.”

Open Up the Conversation

A more diverse leadership pool makes more balanced, well-rounded decisions. Leaders can better reflect a diversity of opinions and perspectives, including those of their patients. Expanded parameters for who should be a leader can lead to a more inclusive and nuanced idea of what leadership *itself* means. The concepts of “old power” versus “new power” — expounded upon in the book *New Power* by Jeremy Heimans and Henry Timms — center around a characterization of old power as held by few, jealously guarded, closed, inaccessible, and leader-driven. New power, by contrast, “is made by many. It is open, participatory, and peer-driven.”¹

Kattapuram believes embracing this new power thinking is part of the non-traditional model of leadership. “For me, I look at traditional leadership as being the ‘old power’ ways of leadership. It can be exclusive,” she says. “If you are not following a path that people, society or the company thinks is the way to get to that position, then you might, unfortunately — whether intentionally or not — be excluded.” But new power, as Geraldine B. McGinty, MD, MBA, FACR, chair of the ACR BOC, explained in a recent *JACR*[®] article, “means opening up the conversation.”²

“Learning how to take everyone’s input, and be a collaborative, cooperative leader is best for everyone involved.”

— Lakshmi Balachandra, MBA, PhD

Balachandra agrees that access to the arena is key. And sometimes that access comes from less formal channels that arise amongst friends — like playing a round at the local golf course after a work event, for example. If you’re not invited, you could miss out on some crucial networking opportunities. According to Balachandra, “At the end of the day, if the top decision-makers are all friends — and often we see that where those in charge all have the same backgrounds or the same ethnic/gender diversity (or lack of it) — then those who are not of that same background, are not at the table.”

Listen and Lead

Antithetical to the traditional, old power style of leadership is the idea that sometimes being a good leader means knowing when to follow or delegate. “Learning how to take everyone’s input, and be a collaborative, cooperative leader is best for everyone involved,” Balachandra says. “You also get the benefit of many voices. Ultimately it’s the leader’s decisions, but without that input then who knows what the decisions look like?”

Kattapuram agrees. “Great leaders don’t micromanage and nitpick,” she says. “Really good leaders trust their followers appropriately and foster the development of more good leaders. They know when to take a step back and let others lead.” **B**

By Cary Coryell, publications specialist, *ACR Press*

ENDNOTES

1. Heimans J, Timms H. Understanding “new power.” *Harvard Business Review*. December 2014. Accessed November 7, 2019.
2. McGinty GB. The ACR’s new power. *J Am Coll Radiol*. 2019;16(7):899–900.



People Skills

Relatability bests title and position in great leaders.

The “hard” definition of non-interpretive skills — as outlined in the section by the same name in ABR’s core exam study guide — includes displaying professionalism, upholding quality and safety standards, understanding malpractice, and staying current on regulatory compliance. While these skills are expected of all radiologists, many would agree that the “soft” skills inherent to great leaders and the best radiologists are what will move the specialty forward.

Referring to a basket of non-interpretive or non-clinical skills as “soft” may suggest that they aren’t important, says Ryan K. Lee, MD, MBA, section chief of neuroradiology at Einstein Healthcare Network in Philadelphia. But these character traits are embodied in physicians who lead with compassion and empathy, Lee says. They are found in leaders who exude optimism, communicate openly and without bias, and prove themselves in the eyes of patients and peers by creating a positive atmosphere and valuing their team’s success more than their own.

Evident Intelligence

“The great leaders in radiology I admire and aspire to be like have not only mastered clinical skills, but project a social and emotional

intelligence that makes them a whole radiologist,” says Patricia Balthazar, MD, chief radiology resident at Emory University and secretary of ACR’s RFS. “It may not come as naturally to us to think about emotional intelligence when compared to intellectual intelligence,” Balthazar says. “Emotional intelligence will not be scored on a multiple choice test. However, once someone is in a leadership position, their emotional quotient becomes evident and will likely dictate their level of success.”

Social and emotional intelligence is evident in leaders who get along well with others — and who can prevent toxic situations by encouraging cooperation within a team. Such leaders can recognize and understand emotions in the workplace and are cognizant of managing them — especially within themselves. Doing so can have a positive influence on the emotions of others, and showing empathy for colleagues seeking guidance is something they can measure and emulate.¹

Evolving Skills

For those in leadership positions now, inspiring other members of the team through relatable non-interpretive skills can redefine the notion

of what it means to be a leader. They promote collaboration and problem-solving — drawing on individual strengths — and instill confidence in clinicians who may not realize their full value.

“Imposter syndrome is real,” Balthazar says. “We have all felt at some point that we don’t belong in a certain position or are underqualified.” Still, every radiologist has the potential to be a leader, Balthazar believes, regardless of their title or role within a practice. By the nature of the job, every radiologist is already a leader to some extent, she says. “We can lead multidisciplinary teams, regardless of where we are in our training. Even as a trainee on-call, surgeons may ask for your opinion, and you have an opportunity to guide them in the right direction.”

Building the non-interpretive skills that shape future leaders depends largely on how invested current leaders are in a culture shift away from traditional thinking. For instance, Balthazar says her chair of radiology at Emory University, Carolyn C. Meltzer, MD, FACR, stresses unconscious bias training for anyone involved in the hiring process. Being unaware of your biases could lead to missed opportunities in securing potentially great leaders for your group. Institutions should consider investing in leadership development training for faculty, which is something we have here at Emory, Balthazar says. ACR’s Radiology Leadership Institute[®] also offers good leadership training programs, she adds.

For radiology leaders who have a say in hiring new members of their team, identifying emotional and social competence is a must, says Scott Taylor, MBA, PhD, associate professor of organizational behavior at Babson College in Wellesley, Mass. “You can’t just look at their clinical experience and where they got their degree.”

It can be tricky assessing things like empathy, emotional self-control, effective communication, and team building during an interview process, Taylor admits. “When you find people who already have these types of skills, it benefits everyone. They will expect an environment that fosters these skills, and in turn often generate positive changes in others.”

Positive Links

The good news is that changing the way radiologists think or behave in certain situations can be developed, Taylor says. “Compared to trying to change personality or increasing cognitive capability, managing emotions, having inclusive conversations, and encouraging open and honest interactions can be much more easily developed,” he says.

It is widely acknowledged that competence in non-interpretive domains is critical to adding value to patient care and to the well-being of a radiology practice.² Good leaders must be change agents — always diligent in identifying disruptive influences and confronting them quickly and head-on.³

According to Taylor, the work he and his colleagues have done over the years in dozens of countries has borne out a common perception of good leaders. His team has asked everyone from high school students to boards of directors to think of a person they know with strong leadership skills, and someone they know who is a horrible leader. These two people did not necessarily hold a managerial title or sit in a position of authority.

The responses have revealed, repeatedly, that good leadership comes down to two components. “Number one, outstanding leaders create a connection with others and are outwardly focused. Number two, leaders create an overall positive environment,” Taylor says.

Inquiring Minds

Being mindful of a universal association of good leadership with a

connective and positive workplace is increasingly important as a new wave of radiologists enter the field. With different expectations for diversity, work-life balance, and physician-patient interaction as part of their career, aspiring leaders want to learn from veterans who have more than just sharp clinical skills.

“Leaders now need these non-interpretive skills to establish purpose and meaning for the people on their team,” Taylor says. “It’s often the younger generation that doesn’t want to just know what they’re supposed to do and how they’re supposed to do it. They want to know why.”

This expectation doesn’t mean future radiology leaders want fast promotions and top titles, Taylor says. “In reality, what many are looking for is leadership by someone who shows them how important non-interpretive skills are to doing the job to its fullest potential.”

“Number one, outstanding leaders create a connection with others and are outwardly focused. Number two, leaders create an overall positive environment.”

— Scott Taylor, MBA, PhD

Leaders accustomed to running a team with unbending directives are not going to be as successful, Taylor says. “They need to spend more time conveying the importance of a team’s work, and how it can meet patients’ expectations.” The result is often higher job satisfaction and increased pride in performance among team members, he says. In turn, leaders will see less turnover among the team — meaning fewer disruptions in workflow and higher patient satisfaction.

“With the way medicine is evolving, especially in terms of patient-centered care and population health management, radiologists really need to be comprehensive physicians,” Lee says. “Good leaders don’t want to be on the fringes, disconnected from what is important to their team and to their patients.”

Leaders need more training in soft skill sets to develop a deeper understanding of the value of non-clinical skills. Many academic institutions and radiology societies offer courses and host events to educate radiologists on more than payment policies, informatics, or regulatory changes.

“These soft skills can be difficult to teach, but are central to our growth,” Balthazar says. Current leaders should realize the expectations of rising radiologists, she says, and radiologists at all levels should know that you don’t need a title to start leading now. According to Balthazar, “The best leaders serve their team and their patients without acting like a boss.” **B**

By Chad Hudnall, senior writer, ACR Press

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What's Your Brand?

Radiologists need to be purposeful in the qualities they convey through all mediums — in-person and online.



Twenty years ago, in an article called “The Brand Called You,” Tom Peters popularized the term “personal branding.” In the article, Peters argues that today’s workers should use corporate branding principles to create their own personal brands — separate from their employer — to advance their careers. “You’re not defined by your job title and you’re not confined by your job description,” Peters wrote. “Starting today, you are a brand.”¹ Although Peters writes about the corporate world, the principles he espouses have been — and continue to be — applied by successful professionals to build, strengthen, and even re-position reputations and careers.

“In a world with so much information that it seems like it’s easy for anyone to get a platform, it’s hard to stand out in the crowd,” says Samir B. Patel, MD, FACR, founder and director of the value management program at Radiology, Inc., in Mishawaka, Ind. “Telling your story in a crowded marketplace is going to be essential so that people can understand you and have a better appreciation of the value you bring.”

Standing Out in the Crowd

A personal brand is a composite of many parts in a radiologist’s professional life. In an age where work quality and digital footprints are measured more than ever before, it behooves radiologists to develop and curate their own individual brands in effective ways.²

According to Kimberly M. Beavers, MD, a breast imaging fellow at Memorial Sloan Kettering Cancer Center, “A lot of people think that branding is selling yourself or your public image. However, the people in radiology who I’ve seen become the most successful are those who are authentic, vulnerable, imperfect, and have topics they are passionate about that make them who they are — things that strengthen a brand.”

“The basic question is: What makes you different?” says Patel. “You needed to stand out differently when you were in high school applying for college, in college applying for medical school, and in medical school applying for residency. People think that when they leave residency they don’t need to continue differentiating themselves, but that couldn’t be further from the truth. The degree of competition will continue to increase as more non-traditional providers enter the healthcare space.”

Making Your Mark in the Digital Space

Defining your brand and promoting your vision and quality standards

have become as important to a radiologist’s future as keeping up with advancements in radiologic technology. In an age of growing social media presence among physicians and the existence of ever-expanding patient portals allowing access to radiologists’ reports, radiologists are present even where they may not know it — so why not take charge of the message?²

According to Beavers, as healthcare continues to become more and more patient-centered, patients are starting to become more educated about healthcare offerings.

“It’s totally a different world now for physicians and their brands,” she says. “My grandfather was an obstetrician in Oklahoma at a time when a doctor’s reputation was still based on patients’ feedback via word of mouth. Our healthcare system is much more complex now, and it’s difficult for doctors to show the public what makes them great.” According to Beavers, social media is especially key for radiologists who don’t have a regular clinic where they can build connections with their patients on a regular basis. “Social media channels allow radiologists to really get out there and show their value,” she says.

Both Patel and Beavers believe that personal branding is key to radiologists on their trajectory to leadership positions. “Branding is more important now than it used to be — especially for young and early career radiologists who are trying to move up the ladder,” says Patel.

Beavers agrees. “Developing a brand and the skills to be the go-to person for a particular focus — AI, research, or economics, for example — can really strengthen your leadership opportunities,” she says. “If your peers know, ‘Oh, she’s the one who’s always involved in radiology advocacy,’ then you become the expert in that topic by having that particular brand. You can open up a lot of doors for yourself by having a limited number of things that you are really passionate about, rather than trying to be the master of everything.”

By Nicole B. Racadag, MSJ, managing editor, *ACR Bulletin*

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Serving the Team

A military radiologist applies the theory of servant leadership to the way he practices — on the battlefield and in the reading room.

The most effective leaders create environments in which others succeed. Rather than simply delegating tasks, they seek to serve those they lead. This leadership style, known as servant leadership, is based on the relationship between the leader and follower being a mutual search for wholeness.¹

This servant leadership style applies heavily to military radiology — a field that demands quick thinking, effective communication skills, and the ability to improvise in the worst of situations. The *Bulletin* spoke with Col. Mohammad Naeem, MD, FACR — a radiologist in the U.S. Army Medical Corps at Fort Belvoir Community Hospital — to discuss how being a servant leader has helped him achieve and maintain a fulfilling career.

Why did you become a military radiologist?

I came to the United States as a teenager, after having been educated in an elite private grammar school in Pakistan that followed the British education system. Almost all the males in my family were British- or American-educated engineers, and most of my aunts had master's degrees in the arts and humanities — but my parents wanted a doctor in the family. I wanted to be an Air Force pilot, submariner, or a federal agent, but had to bow to my family's decision to enter medicine.

Radiology was my escape from the traditional white coat, prescription pad, scalpel, and stethoscope version of medicine. Meanwhile, joining the army was my way of ultimately fulfilling my desire to be a military officer. I was excited to join the U. S. military as a way to honor and protect my adopted homeland.



Then-Lt. Col. Mohammad Naeem, MD, FACR, (right) is pictured with Leon E. Panetta, former U.S. Secretary of Defense, at the U.S. Army's Landstuhl Regional Medical Center in Germany in 2011.

How does leadership on the battlefield translate to leadership in radiology?

The Army recognizes seven values that must be developed in its individuals: loyalty, duty, respect, selfless service, honor, integrity, and personal courage. Applying these tenets to daily practice is critical for successful leadership. The deployment experience has taught me how to work with limited resources and improvise in difficult situations. Even if we don't have the necessary tools with us, we must provide the best care we can. Sometimes that means we may not get the proper medical supplies or be able to adequately evacuate a patient in time. In the same way, radiologists must work with the tools they have available and provide the highest quality care possible. Deployment teaches one tenacity, perseverance, cross-cultural interaction, relying on your battle buddies to save each other's lives in dire situations, and the application of military decision-making processes to everyday radiology problem-solving.

In the military, information sharing is also critical to success. It requires you to work beyond the reading room with diverse teams of all education levels and backgrounds. You learn not only how to communicate effectively with different individuals, but also how important broad input is for a group to succeed. That is, to me, the most important trait of a servant leader: being able to listen receptively to what individuals have to say, accepting them and having empathy for them, and building community in the workplace.

How do you incorporate patient-centered care in a fast-paced, high-stakes environment?

Recently, Gen. Mark A. Milley, the 20th Chairman of the Joint Chiefs of Staff, sent out guidance that said, "Take care of our people and families. The health and safety of service members, retirees, and their families are in our hands. They are our most precious assets, and the nation entrusts their healthcare to us. This is serious work, and every day we should be determined to make sure our performance is equal to that responsibility."

To truly take care of our patients, we must look at every imaging exam as more than pixels on a screen or just another interesting case. There is a human being behind those images. That person is someone's husband, wife, father, mother, daughter, son, brother, or sister. I am reminded of this every time I pull up an imaging study. To me, considering the patient and the life behind the image is the basic tenet of patient-centered care. **B**

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The opinions and assertions contained herein are the private views of the author and are not to be construed as official or reflecting the views of the Department of the Army, Defense Health Agency, or the Department of Defense.



An Ally for Inclusion

Creating diverse organizations requires participation of people at all levels — especially those who are in power positions.

Research in a variety of industries shows that increasing diversity and inclusion in organizations begets a wealth of benefits that go beyond expanding opportunities for underrepresented minorities (URMs). In healthcare, increased diversity and inclusion has been linked to improved access to care, reduced health disparities, and better health outcomes.¹

Hedvig Hricak, MD, PhD, FACR, chair of the department of radiology at Memorial Sloan Kettering Cancer Center and past president of RSNA, believes the message is getting through. “Bringing together people with different experiences, points of view, expertise, and skill sets leads to more advanced critical analysis in decision-making, greater innovation, and better overall results,” she says. “Diversity is not just something to pay lip service to — it is truly a key to success.”

Alexander M. Norbash, MD, MS, FACR, associate vice chancellor for diversity, equity, and inclusion at the University of California, San Diego, and co-director of the Radiology Leadership Institute® (RLI) Leadership Summit, agrees. “When you have more perspectives, you have more solutions,” he says.

Norbash prefers the term “inclusion” to “diversity” because it reflects the desire to appreciate every person as an individual within the organization — an increasingly rare and important quality in today’s polarized society, he says. According to Norbash, becoming an inclusive healthcare organization has important implications for employee and

physician wellness, as well as quality of care. “When people are appreciated, they are less likely to burn out,” he says. “Inclusion prepares us to mobilize our abilities to be better workers, radiologists, and colleagues.”

Taking an Active Role

Creating inclusive and diverse organizations takes effort and intention, dialogue, and a core group that’s committed to the goal, Norbash says. It requires the active participation of people at all levels of the organization — but especially those who are in leadership and power positions. “Without the advocacy of traditionally empowered groups, disempowered groups cannot succeed,” Norbash says, referring to URMs.

Norbash recommends that radiologists find like-minded individuals within the organization and establish a collective commitment. Then, he says, identify leaders within the organization who are also committed to the goal — going as far up the chain of command as possible. “The higher you go, the further you can go,” he says.

As one example, Norbash points to the chancellor of UC San Diego, who participates actively in the university’s efforts to increase diversity. The chancellor’s involvement brings vice chancellors, deans, chairs, and other leadership on board and “moves the conversation about diversity to center stage,” he says.

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Bouncing Back

Building resilience is critical to enhancing patient care, fostering professional fulfillment, and boosting sustainability in the workforce.

After surviving the trials of medical school, residency, and day-to-day practice, one could say that radiologists are some of the most resilient people on Earth. But unprecedented change in the U.S. healthcare environment has placed them under an unparalleled level of stress, including escalating time pressures, increasing patient loads, and mounting clerical duties and paperwork.

How should radiologists respond to these increased stressors in daily life? “Resilience is like a muscle,” says Scott N. Taylor, MBA, PhD, associate professor of organizational behavior at Babson College in Wellesley, Mass., and Radiology Leadership Institute® (RLI) faculty member. “The more you exercise it, the stronger it gets. If you don’t actively work to develop resilience over time — both individually and organizationally — the weaker you become.”

Building Organizational Resilience

According to Sanj Katyal, MD, FACR, president of the Optimal Life Imaging Group, RLI faculty member, and founder of Positive Psychology for Physicians, strengthening the resilience muscle is not just the responsibility of individual physicians. “Healthcare organizations must also build efficient practice environments and foster a culture of wellness to help their physicians flourish,” he says.

For healthcare organizations, resilience is critical to reducing errors, enhancing patient care, and ensuring the sustainability of the workforce. With physician burnout on the rise, it is imperative that radiology practices advance efforts to streamline workflows, build a community of wellness, and support individuals’ pursuit of personal resilience. “From a workflow efficiency perspective, physicians must be allowed to function at the top of their licensure, to do the things that only they can do,” says Katyal.

According to Taylor, organizations must have strategic policies, practices, technologies, and procedures in place that enable them to be resilient. “Within healthcare, it’s amazing that organizations don’t have strategies in place to overhaul clinical workflows and enable physicians to efficiently deliver top-notch care,” he says. “As a result

physician well-being suffers, and doctors are not able to bounce back from disruption.”

Fostering a Culture of Wellness

From an organizational perspective, there’s a strong business case for enhancing physician well-being. “It’s clear that happy radiologists do better. The better we feel, the better we perform,” says Katyal. “We’re more productive, we provide better care, we make fewer mistakes, and we’re more pleasant to be around.”

He adds, “Most physicians are tired of hearing about burnout, because that’s not the real problem. We need to find ways to help radiologists flourish and thrive — both personally and professionally. We need to focus on helping people find more meaning, joy, and fulfillment in their personal and professional life. If we can figure that out, burnout becomes irrelevant.”

Beyond organizational interventions, radiologists can take steps to increase their personal resilience by developing behaviors and attitudes that lead to optimal physical, emotional, and social health ([learn more at \[acr.org/well-being\]\(https://www.acr.org/well-being\)](https://www.acr.org/well-being)). Skills to build personal resilience include restoring work-life balance, practicing mindfulness, engaging in cognitive behavioral therapy, seeking mental health services, and improving self-confidence and communication skills.¹ Research shows that healthy personal behaviors include self-monitoring and self-care, setting limits, and promoting constructive and healthy engagement with (rather than withdrawal from) work challenges.²

“The challenge is focusing your energy and attention on things that really matter and provide the highest yield in terms of joy and meaning in your work life,” says Katyal. “The key question to ask is, ‘How do we take scientific principles from positive psychology and use them to increase our professional fulfillment?’ That’s really what we all want: to go home at the end of the day more fulfilled and more energized and engaged.”

Cultivating New Skills

Radiologists can also seek out proven resilience-boosting principles from positive psychology like practicing gratitude and mindfulness and

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Becoming Resilient

Continuous professional development is one strategy for physicians to strengthen their personal resilience. Check out the RLI’s sessions on this topic at [acr.org/RLI-Courses](https://www.acr.org/RLI-Courses) and share your experiences on social media using [#physicianresilience](https://twitter.com/physicianresilience) or on ACR Engage at [engage.acr.org](https://www.engage.acr.org).



Diversity Matters

Radiology leaders in Nashville bring diversity and inclusion to the forefront with initiatives to recruit, retain, and advance top talent.

Excellence is not possible without inclusivity. At Vanderbilt University Medical Center (VUMC) in Nashville, Tenn., that compelling declaration is central to a concerted effort to make diversity and inclusion intentional and to decrease health disparities among the populations that the hospital serves.

Spearheading the effort is Reed A. Omary, MD, MS, FACR, the chair of radiology at VUMC. In addition to his departmental leadership, Omary co-leads VUMC's strategic planning efforts, under which "make diversity and inclusion intentional" has become a pillar for success.

Omary committed to creating a culturally diverse and inclusive environment in radiology after taking the helm of the department in 2012. With this in mind, he quickly forged a close and collaborative partnership with VUMC's senior associate dean for diversity affairs, André Churchwell, MD, and began gradually executing a plan to equip radiology faculty, residents, and staff with the necessary resources to serve a diverse patient population.

Establishing an Office

To start, Omary recruited Stephanie E. Spottswood, MD, MSPH, professor of radiology and chief of pediatric nuclear medicine, as associate vice chair of diversity. Under her leadership, they established an Office for Diversity, Equity, and Inclusion.

Together, Omary and Spottswood began executing the vision of enhancing diversity in the department and increasing opportunities for underrepresented minorities (URMs) — which are defined at Vanderbilt as African-Americans or Blacks, Hispanics, American Indians, Alaskan Natives, Native Hawaiians, and Pacific Islanders — who are pursuing careers in medicine. Their efforts are already making an impact.

Making Diversity Intentional

When Spottswood accepted the appointment to head the Office for Diversity, Equity, and Inclusion, she had no team or budget, but she says she had an unwavering "commitment to ensuring that radiology better reflects many of the communities we serve." Early on, Omary and Spottswood spent hours discussing the importance of diversity and how the department needed to change. They partnered with VUMC Diversity Affairs to build radiology's diversity program, step by step, into one of the most robust at the university. Over the last five years, the office has expanded from Spottswood — who initially spent only 10% of her time formally fostering diversity — to a team that includes four other radiologists. All of the members, including Spottswood, dedicate a portion of their time to the office while continuing to maintain their clinical practices and educational roles.

As the office has grown and added initiatives, the radiology department has also secured additional funding and resources — some coming from VUMC Diversity Affairs. Today, the department has three key programs to achieve its diversity goals: radiology residency recruitment, faculty enrichment, and the Women in Radiology program.

"We have more women, more URMs, and more geographical diversity among our trainees. We want the best people we can get. And we're now getting candidates from top-tier programs all over the U.S."

—Reed A. Omary, MD, MS, FACR



Diversifying the Applicant Pool

Aligning with a VUMC-wide initiative, the Office for Diversity, Equity, and Inclusion initially concentrated on bringing more minority applicants into the radiology residency program. "Radiology has been a particular focus because, if you look at the top 20 medical specialties, our specialty ranks 18th with respect to minority-based representation," Spottswood says.

The office employs a multifaceted approach to recruit URMs to its diagnostic radiology residency program — starting with simple updates to the program website that highlight the team's commitment to diversity. It also conducts targeted outreach to medical school students at Vanderbilt and historically black medical schools across the country and at conferences, like the Student National Medical Association and the Latino-American Medical Association. What's more, the office has created a job-shadowing program and formed an increasingly diverse residency selection committee.

"We completely revamped our residency recruitment process and started recruiting candidates from all over the country," Omary says. "One of our most successful initiatives has been participating in the Vanderbilt 'Second Look Weekend.' We went from never participating in Second Look to being the biggest participant at the medical center." Second Look invites competitive URM residency candidates to return to VUMC after the first interview (and prior to the match process) to further explore the center's programs and investigate clinical specialties.

Measuring Results

These recruitment efforts have had a positive impact on diversity in the radiology department. "The composition of our residents and of our faculty has changed dramatically over the last five years," Omary says. "We

have more women, more URMs, and more geographical diversity among our trainees. We want the best people we can get. And we're now getting candidates from top-tier programs all over the U.S.”

Promoting Care Equity

While the office's diversity and inclusion efforts began with minority recruitment, they quickly expanded to include a faculty enrichment program designed to educate and prepare the entire radiology department to serve an increasingly culturally diverse patient population and reduce healthcare disparities. “I believe outcomes can be improved when the culture is welcoming to and understanding of all patients,” Spottswood says. “Building cultural proficiency and mitigating unconscious bias are two key components of achieving that important goal. Our faculty enrichment includes training to advance both.”

The department's cultural proficiency training helps radiology faculty members and trainees better understand diverse cultures and the myriad ways patients might perceive doctors and the healthcare system. Cultural and ethnic difference seminars help providers deliver equal care to all patients.

Supporting Women's Careers

As part of the Office for Diversity, Equity, and Inclusion's vision to further create a culturally diverse, inclusive, and welcoming environment, Spottswood co-founded the Women in Radiology group with Lucy B. Spalluto, MD, who also serves as associate director of the Office for Diversity, Equity, and Inclusion. The goal of Women in Radiology is to promote a departmental culture supportive of the career advancement of female clinicians. The program started with potluck dinners and, ultimately, grew into the Leadership Intervention to Further the Training of Female Faculty (LIFT-OFF) career program.

Since LIFT-OFF began two years ago, several women have successfully initiated the promotion process. Two radiologists were promoted from assistant professor to associate professor; one radiologist went from associate professor to professor; a nurse practitioner was promoted to a faculty position; and a medical physicist became an assistant professor.

Embedding Diversity and Inclusion

Through programs like those at Vanderbilt, intentional diversity and inclusion can lead to a culture shift where this type of thinking becomes second nature. “We've embedded diversity and inclusion in all of our processes,” Omary says. “Now when we form a committee or work group to tackle a problem, we ask ourselves, ‘Have we intentionally included people with a diverse breadth of experience — whether it is gender, racial, geographic, cognitive?’ We stop and have that reflective pause. After a while, it becomes instinctive.” **B**

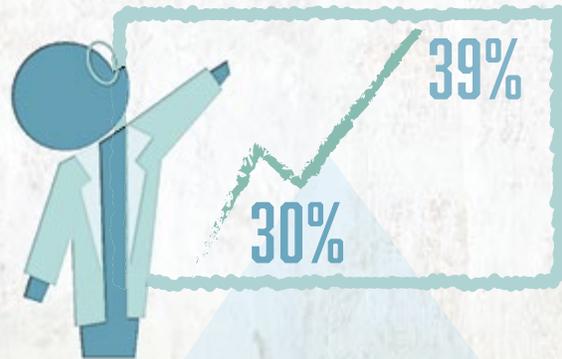
By Linda Sowers, freelance writer, ACR Press

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DIVERSITY BY THE NUMBERS

Since the **Office for Diversity, Equity, and Inclusion** was founded in 2013, the radiology department has **boosted the number of women** on its faculty over a **two-year period**.



WOMEN RADIOLOGISTS



National Average*



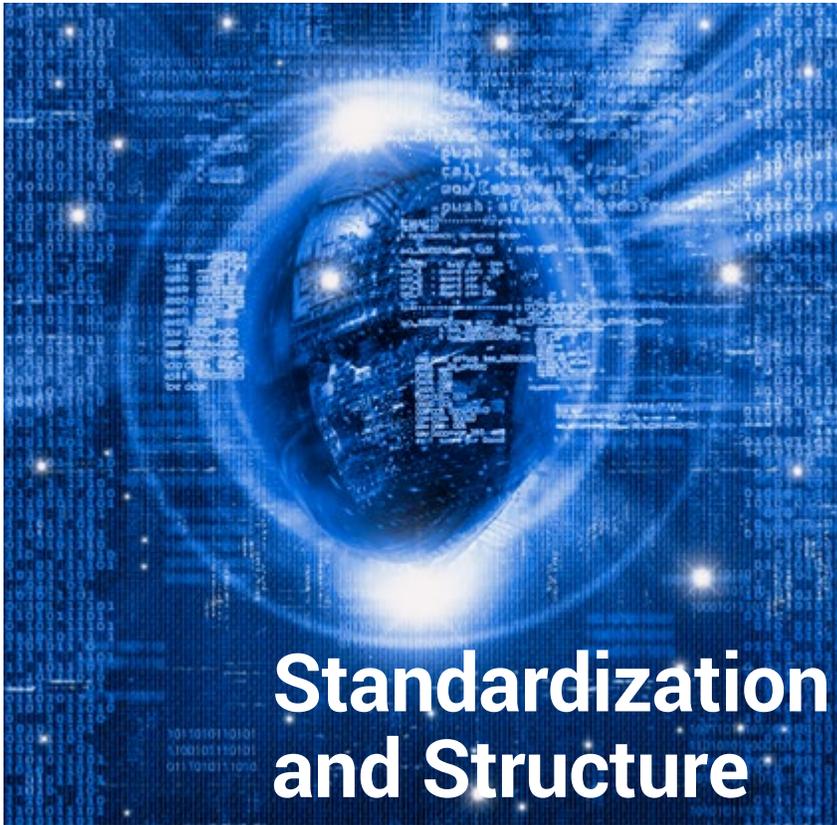
Vanderbilt

RESIDENTS

The **radiology residency program** has **increased** its pool of **minority applicants**.



* Bluth EI, Bansal S, Bender C. The 2017 ACR Commission on Human Resources Workforce Survey. *J Am Coll Radiol.* 2017; 14(2):1613–1619.



What do requirements look like for the radiology report of the future?

Only with standardized, structured report data can machine learning be trained and trusted in the delivery of quality patient care. The popularity of AI is prompting the creation of new data reporting systems that will enable algorithm development and integration into our work.

As radiologists, we strive to deliver high-quality images for interpretation while maintaining patient safety and to deliver accurate, concise reports that will inform patient care. We have improved image quality with advances in technology and attention to optimizing protocols. We have made a stronger commitment to patient safety, comfort, and satisfaction with research, communication, and education about contrast and radiation issues. But when it comes to radiology reports, little has changed over the past century.

The Time Is Now

There have been intermittent attempts to structure our reports in recent decades. The reasoning is sound: to decrease confusing variability in language and ensure

consistent content. But those attempts failed due to our templates' poor aesthetics and rigid nature.

These past failures, in addition to an inherent desire for independence and control, have made radiologists wary of any new system that will force standardization of their work. But the need to standardize report content and terminology — i.e., all radiologists using the same term for the same concept, and hopefully the same term that the ordering physician also uses — is now more important than ever.

Report templates are familiar to most radiologists. Both generic and disease-specific templates improve consistency and ensure that required content is included. Despite their value, templates are criticized by those who say they are difficult to read, can hinder radiologists' thought and expression, and add additional time and effort to the reporting process.

Improvements in technology and the popularity of AI have created a perfect environment for educating the radiology community about the importance of using standard terminology and common data elements (CDEs). While the AI hype has cooled, we recognize potential areas where machine learning algorithms will assist us in detection, diagnosis, and workflow. If these algorithms are ever to be trusted clinically, they must have valid ground truth, established by meaningful, reliable labels. One of the biggest obstacles to creation of these machine learning algorithms for computer vision applications is the availability of the large volume of labeled data needed for training. Our radiology reports contain labels applied by experts, but it is costly and difficult to extract this data from prose or semi-structured reports.

Ideal AI Input

Algorithms that can be safely applied to our work and, by extension, patient care, require data that is accurate, consistent, and reproducible. The use of structure in reports decreases language variability and ensures that required content is included.

Structure can be applied with report templates, such as those available from RSNA's RadLex, or specialized systems, such as the ACR Reporting and Data Systems (RADS), which include categorization and management recommendations. CDE macros are modules that can be inserted into prose reports, allowing structure and individualized radiologist description in a hybrid report. Individual CDEs, found at RSNA's RadElement, can be used in structured or prose reports. All of these structures improve communication and add value to the radiology report. And all provide an ideal input for machine learning algorithm training.

While report structure is valuable, standardization of language is paramount. As an example, "small vessel ischemic change" seen on an MRI of the brain might also be

described by a number of synonyms, such as “microvascular disease,” “white matter disease,” “leukoariosis,” or “periventricular ischemic change.” Whether the audience is a referring physician, patient, radiology trainee, or machine learning algorithm, it is clear that one standard term to describe the finding is easier to understand and learn than five. Adoption of standard language — a constrained vocabulary — is vital to improving reports and creating valid, multipurpose data.

Getting There

CDE macros can instill necessary structure into our reports. These are a structured set of concepts designed to be inserted into a traditional prose report. The macros contain three to five of the most important pieces of information that should be included in any report addressing the described entity. A CDE is a question with a constrained set of expected responses. The responses may be descriptors, such as “mild,” “moderate,” or “severe” in the case of describing spinal canal stenosis; numbers in the case of ASPECTS scoring for stroke; or dimensions in measuring a mass. The key point is that the inclusion of the question ensures report completeness, and the controlled responses ensure consistency in language.

In 2017, the ACR, RSNA, and ASNR together created a CDE workgroup to develop CDE macros for the most common neuroradiology examinations. Content experts scoured the literature to produce macros based on the most current guidelines, expert consensus, and traditional teachings.

One of the first CDE macros created by the ACR/RSNA/ASNR CDE Workgroup is used in spine trauma. This macro contains individual CDE “questions,” including level of fracture, alignment, and involvement of the posterior elements. The answers are standardized, so all radiologists have the same list to choose from — so there is no variability in the report. The questions and answers in the CDE set are based on the most current spine surgery literature, enabling radiologists to create a report with consistent, standard findings and impressions in the language of the treatment team. This optimizes clinical communication and patient care while highlighting the value of the radiologist to the entire healthcare team. In addition, it provides meaningful, accurate labels that can be easily extracted to train machine learning algorithms.

The true beauty of this system is that it saves the radiologist time and effort while improving value — an ideal scenario. The macro is inserted into the prose report, and the radiologist answers the multiple-choice questions and selects the appropriate recommendation based on the constrained set of answers. The radiologist does not have to memorize or look up current guidelines; they are provided in the macro. This is also invaluable

for trainees, who can use the macros to learn what key elements must be addressed when reporting on a specific clinical question.

Simply put, the use of CDEs and CDE macros decreases inter-reader variability in description and interpretation — and can increase reporting speed, consistency, accuracy, and completeness.

As clinical care becomes more data-driven and patient management becomes more algorithmic, so too should radiology reporting — to improve patient care with more accurate, actionable, and valuable reports.

Building the Radiology Report of the Future

Several societies and organizations are now working to build the framework and content needed to standardize our language and reports. The ACR/RSNA/ASNR CDE Workgroup continues to create neuroradiology CDE macros for the most commonly encountered pathologies. Similarly, the ACR RADS library continues to grow, and ACR Assist[®] promises to deliver modular structured content that can be incorporated into a conventional narrative report. Reporting systems can use natural language processing to determine when to provide the radiologist with a particular piece of content, such as the ability to select an ACR RADS classification.

A number of societies are also working to establish grading systems and categorization schema. Collaboration will allow us to reach this necessary goal more quickly. As clinical care becomes more data-driven and patient management becomes more algorithmic, so too should radiology reporting — to improve patient care with more accurate, actionable, and valuable reports.

The key challenge is giving radiologists a strong incentive to change the way they work. It must be clear that this will make our lives easier, allowing us to produce high-value reports with increased speed and efficiency. In addition, improving reports will magnify our role and increase our standing with medical partners and within the healthcare system as a whole. The popularity of AI has prompted many to understand and contribute to the creation of systems that will enable algorithm development and integration into our work. The use of standardized language, CDEs, macros, and templates will facilitate this future. **B**

Wende N. Gibbs, MD, is a senior associate consultant in the department of radiology at the Mayo Clinic.



Contribute to AI in Radiology

The ACR Data Science Institute[®] (DSI) is looking for use case ideas for problems that may be solvable by AI. Each proposal will be reviewed by a DSI Data Science Subspecialty Panel for its potential to help improve medical imaging care. Learn more about how to submit your idea and view existing use cases today at acrdsi.org.

By Bill Shields, JD, LLM, CAE, and
Tom Hoffman, JD, CAE

Difficult Conversations

Reflections on medical mistakes in an analytical, neutral framework may benefit members and patients.

Legally, a just culture presents a double-edged sword for ACR members. Why? Radiologists and radiation oncologists have expertise as diagnostic and therapeutic caregivers — and are the “physician of record” in many cases. When they miss a finding or improperly administer a protocol that allegedly harms a patient, and/or fail to communicate their findings, those acts and omissions frequently carry medical-legal consequences. This column will outline the paradox of whether a just culture — that emphasizes analyzing errors without blame — may function in a U.S. liability system that demands accountability. We will discuss the impact of a new state law that mandates direct communication of findings. Will ACR members in that state be able to comply with that law and work toward a just culture? Additionally, we will assess whether a member may — and should — apologize to a patient for making an error.

In 1994, Leonard Berlin, MD, FACR, an ACR member and leading medical-legal authority, wrote, “Radiologists unanimously recognize that they must fully disclose to a patient or patient’s family the occurrence and nature of any complication that occurs during a radiologic procedure. Radiologists do not uniformly agree, however, that they must disclose whether, and the degree to which, the complication may have been caused by a radiologist’s mistake or error.”¹

Twenty-five years later, Berlin’s observation remains valid. So how would radiologists and radiation oncologists who do not detect a finding, however subtle — or oversee therapy that might compromise a patient’s medical condition — fare in a just culture? A Pennsylvania law that took effect in October will challenge their prospects — at least for diagnostic radiologists. The Patient Test Result Information Act of 2018 requires that a patient must be directly notified within 20 days when a diagnostic imaging study occurs that identifies a “significant abnormality.”² Under this statute, that abnormality is one that “would cause a reasonably prudent person to seek additional or follow-up medical care within three months.” Notably, the law excludes routine OB US exams, plain X-rays, ED imaging services, and inpatient imaging services.

Pennsylvania law now mandates that a physician who

performs the exam — usually a radiologist — must notify the patient directly. This represents another communication that the radiologist must make separate from the customary report to an ordering physician. The law’s effect on radiological care remains uncertain. However, we believe that requiring direct communication of certain findings may increase the risk of claims that patients will lodge in Pennsylvania courts, asserting that a radiologist failed to advise them of a diagnosis within the prescribed period. ACR members in Pennsylvania will have to incorporate the 20-day deadline within their clinical workflow. Radiologists from two Pennsylvania hospitals have devised reporting methods that will satisfy the law’s reporting requirements. In a September 2019 *JACR*[®] article, they described an approach to balance taking sufficient time for consultations with ordering providers with directly notifying patients.

Reflections on medical mistakes in an analytical, neutral framework may benefit members and patients. Nevertheless, Pennsylvania-type laws impose time pressures that will accelerate the clock for members. Radiologists may bear more liability for failing to communicate information in a timely manner — or not at all. Will reporting directly to patients cause more errors to occur in those states? A just culture in our litigious nation will not prevent lawsuits, verdicts, and settlements against ACR members.

Direct communication of results to patients means having difficult conversations with them. Should an ACR member who makes a medical error apologize to the patient? Ethically and perhaps morally, one could argue “yes,” in certain contexts. However, specific admissions may well cost ACR members. Several states have enacted laws that provide immunity for expressing remorse or regret to patients.³ However, very few states protect members against admissions of fault. Consequently, even if members receive immunity, such laws will not preclude an aggrieved patient from suing them. A statement such as, “I’m sorry that I missed ABC finding in your loved one’s study,” may stay out of court. Yet members risk losing valuable time having to defend against potential liability for an underlying claim that they failed to meet the legal standard of care for.

Communication to patients in certain situations now has legal force in one leading jurisdiction. Other states may enact similar reporting laws. Ultimately, a patient and their attorney will regard a just culture as one that benefits them, not necessarily an ACR member. **B**

ENDNOTES

Full list of references available in the digital edition at acr.org/bulletin



Fostering a Just Culture

The term “just culture” embodies an environment in which errors are evaluated in a non-punitive framework — one that focuses on error prevention and quality improvement rather than finger-pointing and individual accountability. Fundamental to just culture is the recognition that errors inevitably occur, even by the most qualified healthcare practitioners. Read more in the December 2019 *Bulletin* article “Make No Mistake” at bit.ly/Bulletin_JustCulture.

Are We Looking at PAMA 2.0?

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the assessment of the impact on their beneficiaries. A means to responsibly motivate ordering physicians to follow AUC recommendations is necessary, perhaps in the form of the existing outlier identification mandate.

- Patients expect their imaging to be appropriate for their condition and to meaningfully guide their diagnosis and therapy. They do not want unnecessary imaging, expense, or radiation exposure.

Is PAMA 2.0 possible? Any next chapter will need to address burden reduction,

distribution of financial risk, the enabling of workable clinical care, and a response to patient wants and needs. We have nearly 30 years of AUC curation, a strong foundation on which to build, and a commitment by CMS to include AUC in payment systems. Ultimately, achieving meaningful change will require collaboration among stakeholders and a unified voice with policymakers. **B**

ENDNOTES

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An Ally for Inclusion

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Making a Difference

According to Hricak, individuals can play a variety of roles in promoting diversity and inclusion in radiology — from introducing young people to the profession to actively promoting the careers of qualified individuals. “I believe the most important step is to mentor, teach, and sponsor women and URMs as researchers and potential leaders very early on in their careers,” says Hricak.

Hricak believes that increasing diversity in leadership will be a long process, but she feels encouraged by young and early career professionals and their comfort in working with people from different backgrounds. Norbash agrees. “You have to be an optimist,” he says. “At the same time, you also have to realize that we have a lot of work to do.” **B**

By Emily Paulsen, freelance writer, ACR Press

ENDNOTES

1. Lightfoote JB, Fielding JR, Deville C, Gunderman RB, Morgan GN, Pandharipande PV, Duerinckx AJ, Wynn RB, Macura KJ. Improving diversity, inclusion, and representation in radiology and radiation oncology part 1: why these matter. *J Am Coll Radiol*. 2014;11(7):673–80.
2. Perry RE, Parikh JR. Sponsorship: a proven strategy for promoting career advancement and diversity in radiology. *J Am Coll Radiol*. 2019;16(8):1102–1107.

Bouncing Back

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building time into busy schedules for healthy eating, exercise, and sleep. Mentoring others can also help, as can cultivating compassion. Katyal offers an example: “For every tenth case, I connect that particular patient’s age and gender to somebody I know. I imagine reading the case as if it were my aunt, or my child, or my wife. It helps me remember that on the other end of that case list is a patient who’s waiting for my report, often with a lot of anxiety. It humanizes the digital image.”

According to Katyal, “The saying that, ‘If you’re not growing, you’re dying,’ is true. You can’t just sit back and coast, because that’s not a recipe for happiness. Flourishing comes from fully realizing your unique potential and then using it in the service of something larger than yourself — in our case, that’s our patients, our families, and our communities.” **B**

By Linda G. Sowers, freelance writer, ACR Press

ENDNOTES

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JOB LISTINGS

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Wisconsin – There is an IR opportunity available with Advocate Aurora Health in Hartford, Wisc. Advocate Aurora Health offers comprehensive IR services at its clinic and hospital. The position requires the completion of radiology residency program, a fellowship in IR, and board eligibility/board certification. The candidate must have skills in all areas of diagnostic and IR to complete a broad range of IR procedures.

Contact: Email alison.burki@aurora.org for more information.

New York – White Plains Hospital, a leading award-winning hospital located 25 miles from Manhattan in Westchester County, N.Y., is looking for three full-time MSK radiologists for its expanding program.

This hospital-employed position involves an 8:00 a.m.–4:00 p.m. shift and includes high-volume CT, US, and MRI with a dynamic team of 20 radiologists. The position offers competitive compensation and benefits.

Contact: Email salfonso@wphospital.org for more information.

Washington – Vancouver Radiologists, P.C., is seeking a versatile neuroradiologist with mammography proficiency. This position will function between two physician-owned imaging centers, a 200-bed non-trauma hospital, and a large, local orthopedic and neurosurgery specialty clinic.

Contact: Send cover letter and CV to HR@vanrad.com.

Michigan – Lansing Radiology Associates, a well-established, successful hospital-based radiology practice, is seeking a breast imaging specialist. The group is offering qualified candidates a one-year partnership, with first-year compensation based on a generous percentage of shareholder compensation. Both full-time and part-time positions are available, with flexible scheduling.

Lansing Radiology Associates is also seeking a neuroradiologist with fellowship training. The group is offering qualified candidates \$50,000 signing bonuses and a one-year partnership path. The first-year compensation will be based on a generous percentage of shareholder compensation.

Contact: Contact Amanda@LRArads.com and (517) 364-2315 for more information.



How can emerging young leaders identify inner strengths and opportunities to complement traditional organizational leadership?



“We all adopt leadership roles in our daily lives. Parenting, managing a household, or simply being a healthcare provider – all require skills that may seem innate but are, in reality, acquired with time and effort and perfected by trial and error. However, in the workplace, many of us find it less intuitive and more intimidating to step up. As radiologists, we are fortunate to have organizations like the ACR, the Radiology Leadership Institute®, and the Society of Interventional Radiology that offer leadership training through courses, conferences, workshops, and webinars. State chapters – as well as most academic institutions – also take on the responsibility to make leadership development resources available.”

– Joelle Wazen, MD, radiology resident at the University of Massachusetts Medical School



“I find that great leaders are often fueled by passion. Find what intrinsically motivates you, and then work towards excellence in that field. You may enjoy undertaking scientific or quality improvement projects, participating in charitable activities like RAD-AID, or teaching. Mentorship from others is also incredibly beneficial, and I would like to thank one of my mentors, ACR BOC Chair Geraldine B. McGinty, MD, MBA, FACR, for generously giving her time to meet with me after work, several years ago, when I was a junior resident. You may find a great mentor in your department, city, local ACR chapter, or national subspecialty meeting.”

– Ross Varma, MD, breast imaging fellow at the Moffitt Cancer Center in Tampa, Fla.

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